

## NOAA Education Council Meeting

Date/Time: February 19, 2013 / 1:00–4:00 pm  
Location: SSMC3, Room 14836  
Dial-in: 866.901.0711  
Passcode: 8134683, leader code: 1144183  
Contact: Lisa Nakamura (202) 482-3139, Marissa Jones (202) 482-4592

Adobe Connects Link to Meeting: <http://connectpro46305642.adobeconnect.com/edcouncil/>

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[http://www.oesd.noaa.gov/council/Audio\\_AdobeConnects.pdf](http://www.oesd.noaa.gov/council/Audio_AdobeConnects.pdf)

## AGENDA

- 1:00 Welcome/Opening remarks - Louisa Koch
- 1:10 Update on Virtual Votes and Strategic Plan - Lisa Nakamura and Christos Michalopoulos
- 1:30 Partnerships Survey Results and Case Study Analysis (*Input requested*) - John Baek and Diana Payne (30 min presentation/ 15 min discussion)
- 2:15 Updates and announcements
- 2:45 Break (15 min)
- 3:00 Building Climate Change Education Capacity of Informal Science Education Institutions: National Network for Ocean and Climate Change Interpretation and Visualizing Change (*Input requested*) - Billy Spitzer/ Sarah Schoedinger sponsor (30 min presentation/ 15 min discussion)
- 3:45 Farewell to Paulo

## Attendance

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**In person:** Louisa Koch (LK), Atziri Ibanez (AI), Bronwen Rice (BR), Chelsea Berg (CB), Christos Michalopoulos (CM), Jennifer Hammond (JH), John Baek (JB), Kate Naughten (KN), Lisa Nakamura (LN), Marissa Jones (MJ), Marlene Kaplan (MK), Peg Steffan (PS), Rochelle Plutchak (RP), Ron Gird (RG), Sarah Schoedinger (SSch), Sepp Haukebo (SHa)

**On the phone/chat:** Christopher Nelson (CN), Frank Niepold (FN), John McLaughlin (JMc), Kate Thompson (KT), Maia McGuire (MMc), Osaretin Obaseki (OO), Paula Keener (PK), Rochelle Plutchak (RP), Shannon Sprague (SS), Tanja Fransen (TF)

**Presenters/guests:** Diana Payne, Billy Spitzer

## **Summary of Action Items and Decisions:**

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ACTION: Follow up with Carrie McDougal if you are interested in participating in the Science on a Sphere Network meeting in Minneapolis from June 10-12.

ACTION: Please distribute the NOAA Educator Needs Assessment Survey to your networks. The survey will be open from February 28 – March 24, 2014. Contact: Sarah Schoedinger and John Baek.

ACTION: The Strategic Plan Advisory Committee will discuss how to handle the call for Federal agencies to back away from supporting Next Generation Science Standards (NGSS) through explicit language. (GET CLARIFICATION).

ACTION: NOAA Education will provide resources for the [National Federation of State High Schools Policy Debate Topic](#) on ocean exploration and/or development. Paula Keener-Chavis will follow up on providing materials online.

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### **Welcome/Opening Remarks (LK)**

- President's budget roll out to hill in early March
- Welcome new Knauss Fellow, Marissa Jones
- Welcome to new member Kate Naughten from NMFS
- Paulo Marin will stop by at the end of the meeting to say goodbye

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### **Update on Virtual Votes and Strategic Plan – Lisa Nakamura and Christos Michalopoulos**

See presentation and excel document

- Strategic plan strategies off-site on 2/24
  - Landscape analysis
  - Draft Strategies for each of the 5 goals
- April council meeting for review of strategies and final approval
  - Thank you to Council members who will represent goals and participate in the daylong meeting.

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### **Partnerships Survey Results and Case Study Analysis (*Input requested*) – John Baek and Diana Payne (30 min presentation/ 15 min discussion)**

See presentation

- KN: What was the impetus for this study? Looking at slide 28, I'm assuming that the impetus was to determine what the tools and strategies we need to build effective partnerships?
- KT: Basically across the board we wanted to take a look at the different types of strategies that we had in education and what they brought to the table. Waning budgets in the past years have made it really difficult to try to justify what we do in Education so we wanted to take a look at the strength of our partnerships and basically bean count. How much money do we bring to the table? How much effort goes in? How much do we get out of the partnership? That's what led to this study. We only asked for the top 5 partnerships because there is so much information and so many partnerships out there. I

wanted to be able to look specifically at our gaps and how to find partnerships to meet those gaps. The one thing that didn't end up coming out of this was how much did they bring to the table besides their staff time and their resources. We took a look at how much funding NOAA gave out, but we wanted to see also what they brought. We did look at what are effective partnerships and how we train our people to be able to find effective partnerships. This is where I wanted to take it further if possible.

- LK: I think one of the motivating factors for you wanting to dig in here was not only to justify our partnerships, but when the National Research Council/National Academy of Science reviewed NOAA Education they told us to be more strategic about picking partnerships. In 2013, the Chief Financial Officer eliminated 2 major partnerships out of the bill. NOAA had been a long-time supporter of the National Ocean Sciences Bowl (NOSB) and American Meteorological Society (AMS) data products. NWS and Fisheries made significant contributions at the end of the year and we were able to keep the partnership alive in part because AMS drilled into their emergency fund. There was more basis for making the request to CFOs – it significantly helped to have cost-benefit information at hand for making the case for funding these programs.
- RG: The timing is great for the NWS Weather Ready Nation (WRN) campaign. We had a similar study performed by the National Association of Public Administrators. They clearly called out that the NWS must engage in partnerships to complete the WRN campaign: the NWS cannot do it alone. What John is doing brings home that point in a much more specific way. I can bring it back to the NWS. We have had partnerships with groups like the AMS and the Weather Channel, but reaching out beyond to groups that are unlike the NWS is challenging. We see lots of interest in weather from the public; we can't possibly satisfy it. We are going to learn a lot from what John has done. It's a road map. Thanks to John and the rest of the team.
- JH: Going back to the presentation, you have an ambitious list of next steps. It sounds like the case studies were helpful, but I don't see more case studies on the list. Are you going to do more case studies?
- LK: I have had trouble trying to find Memorandums of Understanding (MOUs) for people who were trying to set up partnerships. It would be helpful to have sample MOUs. There is a lot of work on this list.
- CM: Does the group have recommendations for prioritizing the next steps? Provide recommendations for MOUs? Perhaps the Ed Council and the group can take some time to prioritize at summer offsite?
- CMc: Great study, kudos to all. The other thing that strikes me from this is the importance of people to making these partnerships work. That's something we should all take back as well because we are in the positions of having to justify our continued existence. This type of report helps justify why we need educators and translators of what NOAA does. This provides some hard evidence to the people part of NOAA in addition to the dollars part. But the people part is what keeps popping out.
- CM: This effort was truly unique in that this group had some people pushing the need to do this study. John provided evaluation expertise and we were fortunate to get Diana Payne who is part of the NOAA community to provide her expertise as well as a fresh outside perspective. This is a model of how we could do business. Unique way of doing business as a community. This is the way we could be doing evaluation in the future because nobody is going to give us lots of money to do this and this group showed a very good way of getting it done.
- DP: Christos, this is your fault, you know... Thanks.
- LN: Going back to the people connection, it's something we intuitively recognize as

valuable, but often not justified enough to dedicate someone's time to. Thinking of my past work with the Regional Collaboration Team, one of the things they do is to maintain people connections. Once something happens like an oil spill or a storm, the people connection becomes very valuable. But until something happens, it's difficult to justify allocating resources to do this. Does this work quantify the value of maintaining relationships at all?

- JB: The case studies are the best place to go for this. For example, the Oakland museum has a partnership with the Royal Bank National Marine Sanctuary. They are leveraging partnerships with the Oakland school district. There is a lot of return that can be documented in terms of building what started out as an informal relationship. You can only document based on what has happened and it depends on what your goals are. Our goal is to educate the nation and we're building the case that the underlying mechanism is our people.
- FN: One of the things that I think is critical to what we did in this working group is the performance measures. The Monitoring and Evaluation (M&E) working group is working on how to get partnership data into our performance measures. It's a key piece because they are extending our outputs and outcome but we haven't been able to characterize those as measures that we contribute to or that contribute to ours. It's an important component of proving why a partnership is valuable.
- PK: We would not be able to do what we do for professional development without external partnerships. We could look at what our data shows and begin to extract from that information about the value of our partnerships. I have a question about slide 9, on the length of NOAA partnerships. There was a 50% drop between 8-10 and 12-15 year partnerships. What causes that?
  - JB: We don't have the data to address the causal factor, but we can speculate. Maintaining a partnership for that long is probably quite substantial. It takes resources over a long time: 3 administrations. Partnerships take energy no matter how informal or ad hoc they may be. It's difficult to "feed the beast" for that long – that would be my speculation.
  - PK: I think it would be interesting if someone had the time to look at those long lasting partnerships to see if there were some critical elements or features of those partnerships.
  - FN: Do I remember correctly that the role of staffing was an important factor? To have staff in both places stably connected in a working relationship can be challenging.
  - JB: I think it's more on the case study side. That would be another good hypothesis: unlikely to have same staff remain in both places that long.
  - DP: Exploratorium and AMF come to mind from the case studies. A single person may not have been there the entire time, but there was always someone from each partner that was able to connect with someone at the other. Frank, you're remembering correctly.
- LK: On the second page of recommendations: Right now we have 2 NOAA metrics that speak to partnerships: number of partners and the number of people that visit those institutions. Those are really good metrics. The vast majority of institutions that present NOAA science are NOAA partners. Are there other metrics? Is there anything else that we should be thinking about tinkering with or expanding?
  - JB: This study also merged on M&E. It was tricky to determine how much to include. We tried to be conservative and stay on the NOAA side as much as possible. This study suggests pushing outward to see what's successful. Part of

the reason we wanted to do this study was to get more definition on what is a partnership. Do you have to have an MOU? It gets murky pretty quickly.

- LK: So, right now we're good with what we have?
- JB: Yes.
- CB: Great work. A cost-benefit analysis is a big undertaking but would be so beneficial. Sea Grant is undertaking this as well – it's a metric we have started to collect. Being able to claim economic value of partnerships would be very helpful.
  - JB: Atziri is working with it. It's very complicated.
  - CB: It is, and people are very uncomfortable with it. You'll get a different answer from different economists.
  - LK: Who is working on this in Sea Grant?
  - CB: A social scientist in our office and some economists in the network are working to get a definition that we can all use.
- CMc: Going back to the performance measures, there is the leverage aspect: What is it that this external agency is able to leverage due to NOAA's contributions? How many other partners? More money? That starts getting at cost-benefit and return on investment. Some leverage pathway is what I would want to see if I were to design a new measure.
- FN: Educators professional development (PD) output measure is one that I'd keep in mind for expanding for partnership numbers. I'm interested in taking on these conversations.
  - LK: NWS put in a huge number in teacher PD. Are some of these double counted with AMS?
  - JB: Double counting becomes an issue as we include partnerships in evaluation.
  - LK: Do we have NSTA in there?
  - KT: Not everyone reported.
  - LK: Are there metrics that could be included?
- DP: A gap analysis is very important and would be useful because we missed so many things.
- PK: Going back to the criteria for designing partnerships, it's important to consider the quality, and really the uniqueness of partnerships. Phillip Bell's book on informal learning [[Learning Science in Informal Environments](#)], which talks about zoos, aquariums, and museums and what makes them unique places of learning. I would be happy to give a summary of how when it comes to telling the story, partnering with these places is unique and a unique way to communicate agency science. He talks about life wide, life deep and lifelong learning – they all have very specific definitions and they're all very interesting. I would be happy to share a presentation.
- SS: I would echo the thanks and point out that this shows that local, state, and regional educators is needed. 70% of the partnerships are at this level.
- CM: What are the plans to publish the report? Peer reviewed paper or minimally a NOAA technical memorandum?
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- CMc: Is there any way to show what proportion of funding comes from partners?
  - JB: I hesitate on that. Smithsonian does have a pretty elegant way of collecting that but it's a whole system. Not trivial.
  - DP: When someone else's grant dries up, then your numbers go down and you're

trying to explain why your numbers when down while your funding has been fairly constant. That's something that you need to take into consideration. In the end we're actually trying to keep two sets of numbers.

## Updates and announcements

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- FN: I'm at the United States Global Climate Research Program-led National Climate Assessment (NCA) engagement workshop. For those of you who don't know, the NCA will be released by the end of April or early May. It is considered the foundation for climate science and engagement activities for 4 years. The last assessment was in 2009. There is a community of us down here looking at how engagement activities would work and I look forward to engaging the council on exploring how that new foundational document and initiative can be used by the agency as we work in this area. It's very exciting and I think that our community will be well served by this initiative.
  - LK: Can you give an idea about any new direction that is going to be taken based on this conference?
  - FN: This is the first look at a lot of new resources. NOAA funded a significant portion of this, especially in digitizing. It is going to be the first climate report that the US produced that is going to be principally digital. That means it's really well developed for wider distribution in the digital space. Place based education coordination in Forests, Parks, Fish and Wildlife, and NOAA are a prime focus area for education initiatives. The conversation will continue beyond today [NCA Engagement workshop].
- TF: I was at the AMS meeting two weeks ago in Atlanta. I met with Dr. Jim Brey and talked about what they are doing in education. I also met with Mark Elliott on the Weather Channel who is working on the Weather Wizards program on the Discovery Channel. We didn't set anything concrete, but they are interested in doing things with Weather Ready Nation and Safety and Preparedness.
- Paula: I think you all have received the announcement through the Education Council that our online course in partnership with the College of Exploration will launch on March 3. We will be highlighting the Explorer's last field season in Atlantic focusing on biological hotspots. We're also taking the opportunity to further trans-Atlantic literacy. We expect to have a number of EU members participating. The field season kicks off later this month mapping in the Gulf of Mexico.
- KT: Cathy Sakas from Gray's Reef NMS has retired. Now that the federal hiring freeze has lifted we are hoping to rehire education coordinators. We have a hole in Monterrey, Florida Keys, and Gray's Reef. It's a bit of a problem. Hopefully positions will be advertised in the future.
- OO: Thanks for spreading and sharing Facebook page and submitting educator opportunities. If you have an educator opportunity to post on website or Facebook there will be an option to check those boxes on the form.
- RG: Following up from TF about the AMS meeting. For the past couple of years, we have done a community service project. In the past we have done environmental cleanups. This year we did an education project. There were four sections, one was canceled because of snow. One was reading about severe weather to kids in a library. The best one was the boy scout/girl scout merit weather badge with overtones of WRN. The room was packed with 200 boy Scouts and 150 Girl Scouts – it was very successful. The last item was NBA Hawks basketball game for adults. We are hopeful that AMS will

continue the trend of education rather than environmental cleanup. The student conference was attended by over 800 people. Word had got out that NOAA and NWS were hiring again. Overall it was very successful. Another topic that came up was the dropping of the Weather Channel by Direct TV.

- KN: Thank you for the welcome from Louisa. I am looking forward to being the representative from Fisheries and working on how Fisheries Communications can better support the Council. My goal this year will be to establish a more robust relationship between Fisheries Communications education effort and our regional educators. I would like to thank Luis in advance – he is working on Science on a Sphere project for fisheries. Fisheries in launching partnership with formal partnership with NOS and Climate Stewards program with Peg and Bruce. Molly Harrison is liaison for this partnership to address the effects of climate on fisheries.
  - MH: Last webinar was about climate impacts to fisheries. We had over 150 people.
- MK: Hollings and undergraduate scholarships applications closed in January. We have 486 applications. Thanks in advance to reviewers. Students will be here for orientation by the end of May.
- BR: We recently picked our dates for our annual B-WET (Bay Watershed Education Training) meeting: It will be in DC the week of May 12. I wanted to flag that in case there are any topics to discuss with B-WET group. It's a rare opportunity to have everyone fact to face, so we're going to build in social and meeting opportunities. If there's anything specific let me know.
- JH: Last month we finished revising applicant pool for 2014 Teacher at Sea. We got the go ahead and 30-35 teachers set sail in March. One teacher selected to be Science Teacher of the Year. She invited the Teacher at Sea team to join her award ceremony at National Academies March 5. March 14-16 will be the first mid Atlantic TAS alumni meeting.
- PS: Thanks to Kate, we have a team working on climate stewards now. It's going great. There are higher expectations for us and a higher caliber of educator. We had a whole-day workshop, including US Forest Service and Ice Drilling. It was a successful venture with packed houses. I'm going to Vietnam - developing climate change forces for provincial and national forces and helping make workshops more interactive.
- CMc: Einstein fellowship interviews are taking place. Asking federal agencies to back away from NGSS. I bring this up to the group to deliberate and think about it. NSF said there was no problem supporting it through grants, but not through explicit language. The Science on a Sphere (SOS) Users Collaborative Network meeting is scheduled for June 10-12 in Minneapolis, MN. Official invites to follow, if you're interested let me know. It's a great opportunity to meet a lot of our partners.
- SSch: John and I met on to discuss survey on NOAA professional development needs. Please distribute the survey by email through your networks. It is intended to help us see where highest needs are for professional development.
- CB: The 2013 Knauss Fellowship has finished, 2014 just started, and applications for 2015 are due to programs. NMFS Sea Grant Fellowship is due Friday. Sea Grant Education Network held elections for board memberships and Maia McGuire was elected as Chair-Elect.
- PS: NGSS came up at the Department of Education. They are not pushing it either. They don't want the public to be confused because it is a privately funded partnership. Underpinnings of NRC framework? Good science engineering policies. Little bit of a different tack.

- CM: NOAA is helping states who have already implemented NGSS.
- CMc: Do we call it out explicitly on website or not?
- CM: Advisory Council and others will discuss how to navigate this issue for the Strategic Plan and the Implementation Plan.
- LK: I was contacted by a debate coach from Colorado. The topic for the National Federation of State High School Policy Debate is: “The United States Government should increase its non-military exploration and/or development of the oceans.” Ocean exploration is going to be on the minds of thousands of high school students who are working hard to hone their arguments. When earth science is the debate topic, NOAA should offer some resources. OAR and others can provide a webpage. Paula will take the lead on the webpage, then send it out to Ed Council for contributions and review. Steve Storck developed resources for Lego League that are available on education.noaa.gov. These would be a good starting point for developing similar materials.

**Building Climate Change Education Capacity of Informal Science Education Institutions: National Network for Ocean and Climate Change Interpretation and Visualizing Change (*Input requested*) – Billy Spitzer/ Sarah Schoedinger sponsor (30 min presentation/ 15 min discussion)**

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See presentation

- JH: What do you use to motivate interpreters to join in a Study Circle?
  - BS: We provide travel support and stipends for implementation. Essentially it has become a word of mouth thing. Participants heard about it from others who went through the program. It means we can't rest on our laurels. We have to keep up so that people like it and refer their friends to it.
- JH: How do you measure hope?
  - BS: Without getting into the details, there's a hope scale. I could send it to you. It has to do with asking people about whether they feel their actions might make a difference. How do they feel about the issue affectively. People who fall into an alarmed category are actually not that hopeful because they're too freaked out that the world is going to end. It has to do with a feeling of empowerment. Sarah will follow up off-line to about getting metric.
- CM: In addition to word of mouth, you stated that ultimately you wanted to reach as many institutions as possible. Have you considered a more retail approach?
  - BS: The Association of Zoos and Aquariums (AZA) is one of the partners on the National Network for Ocean and Climate Change Interpretation (NNOCCI) grant. One of the things they have agreed to do is to develop a course. Someone from AZA is auditing one of the study circles now. She's going to audit a couple of them so that she can understand what we do and then she's going to create a draft syllabus that will become the basis for the AZA course. In addition to that, these shorter workshops that these regional leaders are doing around the countries have more of a retail approach.
- FN: This question comes from the rich addition to the climate change education space that the aquarium and zoo community has brought because of the more conservation, stewardship action part. You are very comfortable there whereas other institutions are not. We had a presentation by the Ocean Project about some of the research they're doing on flipping the logic on informal education in zoos and aquaria about how to improve experience if you're supported in doing something about the issue.
  - BS: There are multiple strategies. We are using a civic engagement and public discourse



- strategy now. Our goal is to give visitors enough tools to make good decisions about climate change and to be solution-oriented. We want to make sure we connect with values that they share – we are not assuming that they come in with a conservation mindset. Among our own visitors 20-30% self-identify as environmentalist. Second, we need to help people understand where problems come from so that they can distinguish an appropriate solution from an inappropriate solution, e.g. clean coal is not a good solution even though it sounds “clean.” People need to feel a sense of hope and possibility and to think on the large scale as well as small. In the projects that we’re doing now we’re not focusing on individual actions that we want them to do, but the collective actions and social changes that are required to help solve a problem on this scale. We’re trying to shift the dialog to this larger scale.
- FN: I’m wondering if some of the work that the Ocean Project did about renewable energy credits and finding an individual action that somebody can do that aggregates, that is sizable and connects. Are they the same? Are they complementary or is the thing you described more the direction you’re going in? The work that the Ocean Project illuminated is really very innovative in the informal education community.
  - BS: I think we’re all learning how to do this stuff better. One way I think about is for effective social marketing, you need to know who the audience is very specifically with a well-defined ask and a well-defined time. If you go away from core audience, action, or timeframe, you don’t see the impact. We’re trying to play a longer term game here, which is to give the interpreters and public more tools in their head to engage their heart and ultimately their hands in doing something. One thing is to demystify this issue so that it becomes like a lot of other issues that people have to solve. For example, the value of good education is something a lot of people get behind. They don’t believe it’s going to be solved by somebody else, or a single action, but it’s something they care about and believe they need to get involved in. I see this as analogous – this is a community and social issue where we need to leverage that power of people work together collectively to solve a common need. Resist the polarization and isolation that has crept into this issue on the public scale. I am agnostic until we see the data in terms of what’s effective.
  - JB: Talked to Johnny Fraser about his work on the sense of hope. Even in his preliminary work, he found that educators on climate change put on a happy, hopeful face, but at home they were deeply concerned, anxious and had emotional distress. We are educating climate educators and I would suspect that this is happening within our agency as well.
    - BS: Sarah, I can send you the article he wrote on this environmental distress issue. It’s something we have been wrestling with - how much to deal with it in Study Circles. There are people who are bringing up hopes and fears. We’d like to deal with that productively. We give them tools in trainings for how to deal with anxiety more effectively. That sense of hope does start to rise. It’s not only what people learn individually, but also being part of a broader network that’s growing by leaps and bounds helps people feel more supported and less isolated.
  - LK: Sandy McDonald has done a very nice piece using real, highly accurate weather forecasts and demonstrated that through wind and solar for the majority of the United States. Because we’re such a large, disparate country, there’s always sun or wind happening but you have to be able to move it around. Beyond solar houses and cities, a solar nation is what we need. It’s a very uplifting study, positive study. What is the metric that you would cite to demonstrate the impact of your effort on the problem you’re trying to tackle?
    - BS: The most direct impacts are on the people we intensively train. We see changes in knowledge, self-efficacy, hope, engagement, etc. The second level is social radiation of all people that they train and interact with. The third level is the visitors to those

institutions. We're just starting to get a handle now on how we want to measure that. We don't think we can hold ourselves accountable for say, carbon emissions levels, but we can hold ourselves accountable to level of discourse that's taking place in the informal science centers. Not a simple question, especially since we're not the only game in town (media, press, weather, etc.).

- DP: I just wanted to give a plug for this program because I was fortunate to take part in one and my colleagues and I found it extremely valuable at the local, state, and regional level.
- CMc: I am going to ask a question about the regionalization of the messages or values. Do you find that the interpreters feel that this is an important element?
  - BS: There's regionalization of values and regionalization of content. I think that the approach is to find values that are broad enough that they cut across political affiliation, region, etc. A good example of that is innovation. That's something that is going to appeal to people no matter where they are on the political scale. Need to test people at a broad range of values to find ones that are robust. In terms of content and relevance, we are looking for opportunities for people to customize content. How can people customize what they learn back to a specific exhibit, etc. You can watch our video: [https://secure.oesd.noaa.gov/council/2014/Feb/tide\\_pool.mp4](https://secure.oesd.noaa.gov/council/2014/Feb/tide_pool.mp4).
- Farewell to Paulo Maurin! He is going to work in Hawaii as Management Coordinator for the Coral Program.